

What is Claimed is:

1. A method for forming a transmissive optical element comprising:
filling a mold with a molten liquid that comprises a transparent plastic and a
phosphor additive; and
allowing the molten liquid to solidify to produce the transmissive optical
5 element having phosphor dispersed therein.
2. A method according to Claim 1 wherein the transmissive optical
element is a dome through which a light emitting device emits light and wherein the
filling comprises filling a dome-shaped mold with a molten liquid that comprises a
10 transparent plastic and a phosphor additive.
3. A method according to Claim 2 further comprising:
forming a transparent core inside the dome.
- 15 4. A method according to Claim 2 further comprising:
forming a transparent outer shell outside the dome.
5. A method according to Claim 3 further comprising:
forming a transparent outer shell outside the dome.
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6. A method according to Claim 2 wherein the filling is preceded by
forming a transparent core and wherein the filling comprises filling a dome-shaped
mold that includes the transparent core with a molten liquid that comprises a
transparent plastic and a phosphor additive.
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7. A method according to Claim 1 wherein the transmissive optical
element is a keypad key through which a light emitting device emits light and wherein
the filling comprises filling a keypad key-shaped mold with a molten liquid that
comprises a transparent plastic and a phosphor additive.
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8. A method according to Claim 1 wherein the transmissive optical
element is a keypad key face, through which a light emitting device emits light, the
method further comprising:

forming a keypad key wall that is attached to the keypad key face.

9. A transmissive optical element comprising:
a shell that comprises a transparent plastic including a phosphor dispersed
5 therein.

10. A transmissive optical element according to Claim 9 wherein the
phosphor is uniformly dispersed in the shell.

10 11. A transmissive optical element according to Claim 9 wherein the
phosphor is nonuniformly dispersed in the shell.

12. A transmissive optical element according to Claim 9 wherein the shell
is a dome-shaped shell, the transmissive optical element further comprising a
15 transparent inner core inside the dome-shaped shell.

13. A transmissive optical element according to Claim 9 wherein the shell
is a dome-shaped shell, the transmissive optical element further comprising a
transparent outer core outside the dome-shaped shell.
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14. A transmissive optical element according to Claim 12 wherein the shell
is a dome-shaped shell, the transmissive optical element further comprising a
transparent outer core outside the dome-shaped shell.

25 15. A transmissive optical element according to Claim 12 wherein the
transparent inner core fills the dome-shaped shell.

16. A transmissive optical element according to Claim 12 in combination
with a semiconductor light emitting device that is configured to emit light into and
30 through the transparent inner core and through the dome-shaped shell, to emerge from
the dome-shaped shell.

17. A transmissive optical element according to Claim 16 in further
combination with a mounting substrate that is adjacent the semiconductor light

emitting device such that the semiconductor light emitting device is between the mounting substrate and the transparent inner core.

18. A transmissive optical element according to Claim 17 in further
5 combination with an encapsulant between the semiconductor light emitting device and the transparent inner core.

19. A transmissive optical element according to Claim 9 wherein the shell
is a keypad key shell, including a keypad key face and a keypad key wall that extends
10 from the keypad key face.

20. A transmissive optical element according to Claim 19 wherein the phosphor is uniformly dispersed in the keypad key shell.

15 21. A transmissive optical element according to Claim 19 wherein the phosphor is uniformly dispersed in the keypad key face and is not included in the keypad key wall.

22. A transmissive optical element according to Claim 19 wherein the
20 phosphor is nonuniformly dispersed in the keypad key face.

23. A light emitting device comprising:
a mounting substrate;
a semiconductor light emitting device on the mounting substrate;
25 a dome-shaped shell that comprises a transparent plastic including a phosphor dispersed therein, on the mounting substrate that at least partially surrounds the semiconductor light emitting device; and
a transparent inner core inside the dome-shaped shell.

30 24. A light emitting device according to Claim 23 further comprising:
an encapsulant between the semiconductor light emitting device and the transparent inner core.

25. A light emitting device according to Claim 24 wherein the mounting substrate includes therein a cavity, wherein the semiconductor light emitting device is at least partially in the cavity, wherein the dome-shaped shell is on the mounting substrate surrounding the cavity and wherein the encapsulant is in the cavity.

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26. A light emitting device according to Claim 23 further comprising:
a transparent outer shell outside the dome-shaped shell.